```
chain nodes :
18  19  20  21  22  29  30  31  32
ring nodes :
1   2   3   4   5   6   7   8   9   10  11  12  13  14  15  16  17  23  24  25  26  27  28
chain bonds :
1-18  4-31  10-19  13-32  15-21  16-24  20-21  21-22  25-29  28-30
ring bonds :
1-2  1-6  2-3  3-4  4-5  4-7  5-6  5-10  7-8  7-11  8-9  8-14  9-10  11-12  12-13
13-14  13-15  14-17  15-16  16-17  23-24  23-28  24-25  25-26  26-27  27-28
exact/norm bonds :
1-2  1-6  1-18  2-3  3-4  4-5  4-7  5-6  5-10  7-8  7-11  8-9  8-14  9-10  10-19
11-12  12-13  13-14  13-15  14-17  15-16  16-17  21-22
exact bonds :
4-31  13-32  15-21  16-24  20-21  25-29  28-30
normalized bonds :
23-24  23-28  24-25  25-26  26-27  27-28


Match level :
1:CLASS   2:CLASS   3:CLASS   4:CLASS   5:CLASS   6:CLASS   7:CLASS   8:CLASS   9:CLASS
10:CLASS  11:CLASS  12:CLASS  13:CLASS  14:CLASS  15:CLASS  16:CLASS  17:CLASS
18:CLASS  19:CLASS  20:CLASS  21:CLASS  22:CLASS  23:CLASS  24:CLASS  25:CLASS
26:CLASS  27:CLASS  28:CLASS  29:CLASS  30:CLASS  31:CLASS  32:CLASS




L1        STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1                STR
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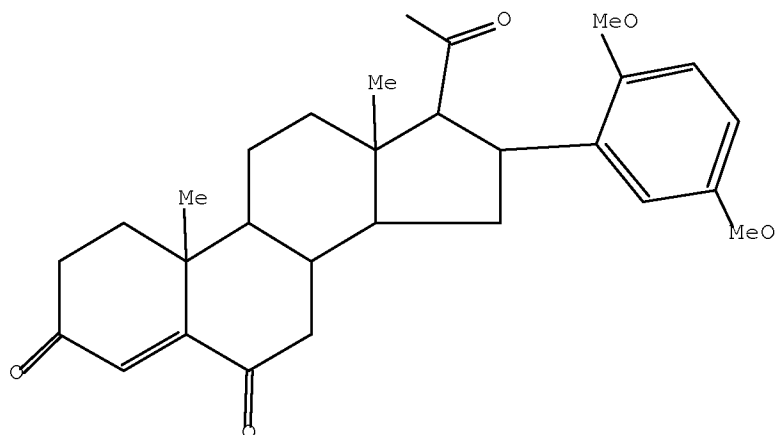
Structure attributes must be viewed using STN Express query preparation.


```
=> s l1 sam
SAMPLE SEARCH INITIATED 15:45:24 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        5 TO ITERATE

100.0% PROCESSED        5 ITERATIONS                           0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:          5 TO        234
PROJECTED ANSWERS:             0 TO          0

L2              0 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 15:45:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      118 TO ITERATE

100.0% PROCESSED      118 ITERATIONS                           0 ANSWERS
SEARCH TIME: 00.00.01

L3              0 SEA SSS FUL L1

=> logoff hold

    (FILE 'HOME' ENTERED AT 15:44:48 ON 12 MAY 2009)

    FILE 'REGISTRY' ENTERED AT 15:45:02 ON 12 MAY 2009
L1              STRUCTURE UPLOADED
                D L1
L2              0 SEA FILE=REGISTRY SSS SAM L1
L3              0 SEA FILE=REGISTRY SSS FUL L1
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                ENTRY       SESSION
FULL ESTIMATED COST                            185.88       186.10

  SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 15:45:44 ON 12 MAY 2009
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Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTASEC1612

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 15:49:22 ON 12 MAY 2009
FILE 'REGISTRY' ENTERED AT 15:49:22 ON 12 MAY 2009
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COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                              ENTRY   SESSION
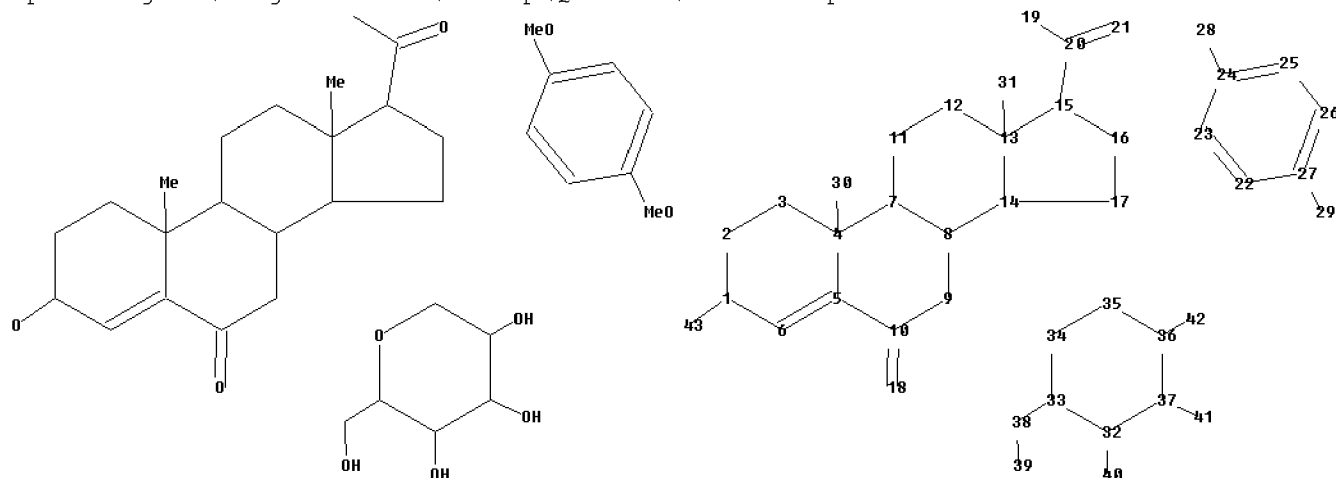FULL ESTIMATED COST   185.88   186.10

=>
Uploading C:\Program Files\Stnexp\Queries\10538993-pieces.str

chain nodes :
18 19 20 21 28 29 30 31 38 39 40 41 42 43
ring nodes :
1   2   3   4   5   6   7   8   9   10 11 12 13 14 15 16 17 22 23 24 25 26 27
32 33 34 35 36 37
chain bonds :
1-43   4-30   10-18   13-31   15-20   19-20   20-21   24-28   27-29   32-40   33-38   36-42
37-41   38-39
ring bonds :
1-2   1-6   2-3   3-4   4-5   4-7   5-6   5-10   7-8   7-11   8-9   8-14   9-10   11-12   12-13
13-14   13-15   14-17   15-16   16-17   22-23   22-27   23-24   24-25   25-26   26-27   32-33
32-37   33-34   34-35   35-36   36-37
exact/norm bonds :
1-2   1-6   1-43   2-3   3-4   4-5   4-7   5-6   5-10   7-8   7-11   8-9   8-14   9-10   10-18
11-12   12-13   13-14   13-15   14-17   15-16   16-17   20-21   32-33   32-37   32-40   33-34
34-35   35-36   36-37   36-42   37-41   38-39
exact bonds :
4-30   13-31   15-20   19-20   24-28   27-29   33-38
normalized bonds :
22-23   22-27   23-24   24-25   25-26   26-27

Match level :
1:CLASS   2:CLASS   3:CLASS   4:CLASS   5:CLASS   6:CLASS   7:CLASS   8:CLASS   9:CLASS
10:CLASS   11:CLASS   12:CLASS   13:CLASS   14:CLASS   15:CLASS   16:CLASS   17:CLASS
18:CLASS   19:CLASS   20:CLASS   21:CLASS   22:CLASS   23:CLASS   24:CLASS   25:CLASS
26:CLASS   27:CLASS   28:CLASS   29:CLASS   30:CLASS   31:CLASS   32:CLASS   33:CLASS
34:CLASS   35:CLASS   36:CLASS   37:CLASS   38:CLASS   39:CLASS   40:CLASS   41:CLASS
42:CLASS   43:CLASS

L4   STRUCTURE UPLOADED

=> d l4
L4 HAS NO ANSWERS
L4   STR
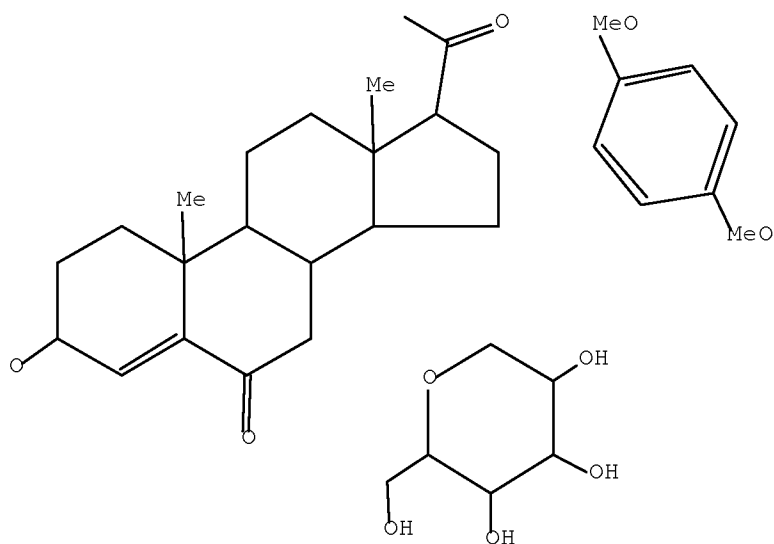
Structure attributes must be viewed using STN Express query preparation.

=> s l4 sss sam
SAMPLE SEARCH INITIATED 15:50:06 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -   28 TO ITERATE

100.0% PROCESSED   28 ITERATIONS   0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE   **COMPLETE**
                         BATCH   **COMPLETE**
PROJECTED ITERATIONS: 243 TO   877
PROJECTED ANSWERS: 0 TO   0

L5   0 SEA SSS SAM L4

=> s l4 sss full
FULL SEARCH INITIATED 15:50:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   578 TO ITERATE

```
100.0% PROCESSED       578 ITERATIONS                            0 ANSWERS
SEARCH TIME: 00.00.01


L6              0 SEA SSS FUL L4


=> file uspatfull
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                     ENTRY      SESSION
FULL ESTIMATED COST                                 372.24      372.46


FILE 'USPATFULL' ENTERED AT 15:50:27 ON 12 MAY 2009
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 12 May 2009 (20090512/PD)
FILE LAST UPDATED: 12 May 2009 (20090512/ED)
HIGHEST GRANTED PATENT NUMBER: US7533422
HIGHEST APPLICATION PUBLICATION NUMBER: US20090119816
CA INDEXING IS CURRENT THROUGH 12 May 2009 (20090512/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 12 May 2009 (20090512/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2009


USPATFULL now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2008.


=> s us20060149045/pn
L7              1 US20060149045/PN


=> file reg
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                     ENTRY      SESSION
FULL ESTIMATED COST                                   1.53      373.99


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STRUCTURE FILE UPDATES:   10 MAY 2009  HIGHEST RN 1145355-82-3
DICTIONARY FILE UPDATES:  10 MAY 2009  HIGHEST RN 1145355-82-3


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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.


   Please note that search-term pricing does apply when
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predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:


http://www.cas.org/support/stngen/stndoc/properties.html


=> tra l7 1- rn
```

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L8            TRANSFER L7 1- RN :     386 TERMS
L9           386 L8

=> file caplus
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY      SESSION
FULL ESTIMATED COST                                 0.48       391.08

FILE 'CAPLUS' ENTERED AT 15:51:37 ON 12 MAY 2009
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FILE COVERS 1907 - 12 May 2009  VOL 150 ISS 20
FILE LAST UPDATED: 10 May 2009  (20090510/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Feb 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Feb 2009

CAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2008.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate

=> s l9 and cellobiosyl
        143744 L9
           281 CELLOBIOSYL
L10            5 L9 AND CELLOBIOSYL

=> d ibib ab hitstr 1-5

L10  ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:        2007:1364352  CAPLUS Full-text
DOCUMENT NUMBER:         148:32596
TITLE:                   Nutraceutical compositions from microalgae and related
                         methods of production and administration
INVENTOR(S):             Dillon, Harrison F.; Somanchi, Aravind; Rao, Kamalesh;
                         Jones, Peter J. H.
PATENT ASSIGNEE(S):      Solazyme, Inc., USA
SOURCE:                  PCT Int. Appl., 199pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  8
PATENT INFORMATION:
```

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     PATENT NO.            KIND   DATE       APPLICATION NO.        DATE
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     WO 2007136428         A2     20071129   WO 2007-US1319            20070119
     WO 2007136428         A3     20081127
          W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN,
              KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, ME, MG,
              MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
              RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR,
              TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
              CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     US 20070167396        A1     20070719   US 2006-336428           20060119
     US 20070167397        A1     20070719   US 2006-336430           20060119
     US 20070166449        A1     20070719   US 2006-336431           20060119
     US 20070166797        A1     20070719   US 2006-336656           20060119
     US 20070166266        A1     20070719   US 2006-337103           20060119
     US 20070167398        A1     20070719   US 2006-337171           20060119
     US 20070191303        A1     20070816   US 2006-336426           20060119
     EP 1993565            A2     20081126   EP 2007-808975           20070119
          R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,
              BA, HR, MK, RS
PRIORITY APPLN. INFO.:                       US 2006-336426    A  20060119
                                             US 2006-336428    A  20060119
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                                             US 2006-336431    A  20060119
                                             US 2006-336656    A  20060119
                                             US 2006-337103    A  20060119
                                             US 2006-337171    A  20060119
                                             US 2006-816967P   P  20060628
                                             US 2006-832091P   P  20060720
                                             US 2006-838452P   P  20060817
                                             US 2006-872072P   P  20061130
                                             WO 2007-US1319    W  20070119
AB   Polysaccharides with nutraceutical application may by obtained by culturing
     red microalgae and the nutraceutical compns. thus produced may comprise a
     carrier and homogenized microalgal cells.  Addnl. components may include
     phytosterols, limonoids, flavonoids, and tocotrienols.  The polysaccharides
     may be used in applications such as reducing cholesterol in mammals,
     inactivating viruses, stabilizing foods, etc.  Thus, total serum cholesterol
     in an animal model (hamsters) over 30 days was decreased 35-62% by dietary
     inclusion of Porphyridium biomass homogenate and polysaccharide, the highest
     decreases being observed when phytosterols were also present.  Transgenic
     algae may be used that are capable of utilizing fixed carbon sources for
     energy.  Also provided are novel nucleic acid sequences from red microalgae.
IT   57-88-5, Cholest-5-en-3-ol (3β)-, biological studies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (blood; nutraceutical compns. from red microalgae and related methods
        of production and administration)
RN   57-88-5 CAPLUS
CN   Cholest-5-en-3-ol (3β)-  (CA INDEX NAME)


Absolute stereochemistry.
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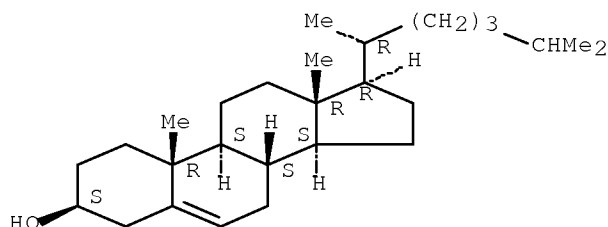
Me   (CH$_2$)$_3$
R
Me   H
R
Me   H
S   H   S
R
S   H
S
H
HO
CHMe$_2$

L10   ANSWER 2 OF 5   CAPLUS   COPYRIGHT 2009 ACS on STN

AB   Although the mechanism by which dietary cholesterol is absorbed from the
      intestine is poorly understood, it is generally accepted that cholesterol is
      absorbed from bile acid micelles in the jejunum. Once inside the enterocytes,
      cholesterol is esterified by the action of acyl-CoA:cholesterol
      acyltransferase (ACAT), assembled into chylomicrons, and secreted into the
      lymph. In this work, mechanistic aspects of cholesterol absorption were
      probed using compds. that block cholesterol absorption in hamsters. Sterol
      glycoside cholesterol absorption inhibitors, exemplified by L-166,143,
      (3β,5α,25R)-3-[(4'',6''-bis[2-fluoro-phenylcarbamoyl]-B-D- cellobiosyl)oxy]-
      spirostan-11-one, potently blocked absorption of radioactive cholesterol, and
      the potencies of several analogs correlated with their ability to lower plasma
      cholesterol. Each mol. of L-166,143 blocked the uptake of 500 mols. of
      cholesterol, rendering it unlikely that the inhibitor interacts directly with
      the cholesterol or bile acid. Radiolabeled L-166,143 bound to the mucosa and
      binding was blocked by active, but not inactive, cholesterol absorption
      inhibitors. Subtle changes in the structure of sterol glycosides yielded
      large changes in their ability to block both cholesterol absorption and
      binding of radiolabeled L-166,143. dog. Large species-to-species variation in
      potency was also observed These lines of evidence support the interpretation
      that dietary cholesterol is absorbed via a specific transporter found in the
   intestinal mucosa.
IT   57-88-5, Cholesterol, biological studies
      RL: BAC (Biological activity or effector, except adverse); BOC (Biological
      occurrence); BPR (Biological process); BSU (Biological study,
      unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
         (intestinal absorption of cholesterol mediated by saturable inhibitable
         transporter in hamsters, dogs, rats and mice)
RN   57-88-5 CAPLUS
CN   Cholest-5-en-3-ol (3β)- (CA INDEX NAME)

Absolute stereochemistry.

Me (CH₂)₃

Me R H CHMe₂
Me R
R
Me S H S
R
S H S H
HO
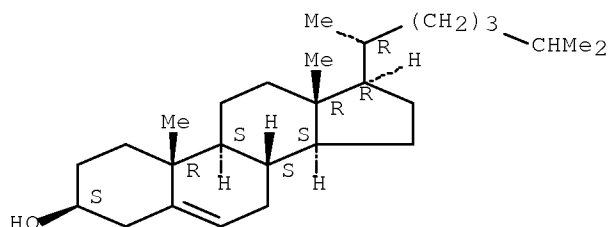
REFERENCE COUNT: 30   THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS
                                 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:509562 CAPLUS Full-text
DOCUMENT NUMBER: 121:109562
ORIGINAL REFERENCE NO.:   121:19815a,19818a
TITLE: Steroidal glycosides for treating hypercholesterolemia
INVENTOR(S):   Deninno, Michael Paul; McCarthy, Peter Andrew
PATENT ASSIGNEE(S):   Pfizer Inc., USA
SOURCE: PCT Int. Appl., 85 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

      PATENT NO.   KIND   DATE   APPLICATION NO.   DATE
      ---------------   ----   --------   --------------------   --------
      WO 9400480   A1   19940106   WO 1993-US4092   19930506
          W: AU, BG, BR, CA, CZ, DE, JP, KR, NO, NZ, RO, RU, SK, UA, US
          RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
              BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
      AU 9342265   A   19940124   AU 1993-42265   19930506
      EP 647234   A1   19950412   EP 1993-910951   19930506
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
      JP 07504921   T   19950601   JP 1993-502331   19930506
      EP 796862   A2   19970924   EP 1997-200454   19930506
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
      EP 796863   A2   19970924   EP 1997-200455   19930506
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
      EP 796864   A2   19970924   EP 1997-200456   19930506
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
      BR 9306619   A   19981208   BR 1993-6619   19930506
      CN 1085561   A   19940420   CN 1993-107620   19930625
      ES 2074006   A1   19950816   ES 1993-1507   19930705
      ES 2074006   B1   19960316
      US 5629295   A   19970513   US 1994-351470   19941220
      NO 9405001   A   19950214   NO 1994-5001   19941223
      JP 09309897   A   19971202   JP 1997-30588   19941226
PRIORITY APPLN. INFO.:   US 1992-904914   A2 19920626
                                                 EP 1993-910951   A3 19930506
                                                 WO 1993-US4092   A 19930506
                                                 JP 1994-502331   A3 19941226
OTHER SOURCE(S):   MARPAT 121:109562
AB   Certain steroidal glycosides of formula I [e.g., Q1 = CO, CH(OH); Q2 = CO,
      CH2, CH(OH); Q3 = CH(OR1), CH(OXOR1); Q4, Q5 = CH2; R1 = various glycosyl
      residues; X = alkylene; plus several addnl. groups of definitions], useful as

hypocholesterolemic and antiatherosclerotic agents (no data), are claimed and prepared For example, ZnF2-promoted coupling of (3β,5α,25R)-3-hydroxyspirostan-11-one with heptaacetyl-β-D-cellobiosyl bromide (93% yield) and deacetylation with NaOMe in MeOH-THF (57% yield) gave the invention compound (3β,5α,25R)-3-[(β-D-cellobiosyl)oxy]spirostan-11-one. Prepns. of approx. 50 I and numerous precursors are described.
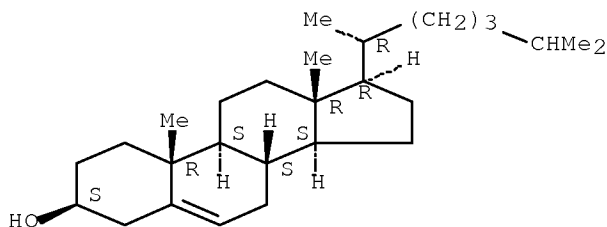IT   57-88-5, Cholesterol, biological studies
     RL: BIOL (Biological study)
         (absorption of, inhibitors of, steroidal glycosides as)
RN   57-88-5 CAPLUS
CN   Cholest-5-en-3-ol (3β)- (CA INDEX NAME)

Absolute stereochemistry.

REFERENCE COUNT: 3   THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
                                 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:50901 CAPLUS Full-text
DOCUMENT NUMBER: 112:50901
ORIGINAL REFERENCE NO.:   112:8649a,8652a
TITLE: ESR study on synthetic glyceroglycolipid liposomal
                          membranes
AUTHOR(S):   Naito, Mikihiko; Utsumi, Hideo; Umeda, Masato; Kudo,
                          Ichiro; Takeshita, Keizo; Hamada, Akira; Nojima,
                          Shoshichi; Inoue, Keizo
CORPORATE SOURCE: Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Biochimica et Biophysica Acta, Biomembranes (1989),
                          985(2), 147-52
                          CODEN: BBBMBS; ISSN: 0005-2736
DOCUMENT TYPE: Journal
LANGUAGE: English
AB   It was previously reported that glyceroglycoplipid liposomes without
     cholesterol activated mouse peritoneal macrophages in vivo and in vitro,
     whereas glyceroglycolipid liposomes containing equimolar cholesterol did not.
     In order to characterize the properties of the glyceroglycolipid membranes,
     ESR spectroscopic studies were carried out with an acyl spin-labeled
     galactosyl ceramide (SL-GC) or a headgroup spin-labeled phospholipid (SL-6-
     DPPA) in 1,2-dipalmityl[β-cellobiosyl (1'→3)]glycerol (Cel-DAG) liposomal
     membranes. The ESR spectrum of the SL-GC in the Cel-DAG liposomes at 37° was
     a single broad line, indicating that the SL-GC mols. were excluded almost
     completely from Cel-DAG domains and formed clusters in the membranes. The
     spectrum of SL-6-DPPA in the Cel-DAG liposomes at 37° showed broad resonance
     lines with the central peak being the highest, while that at 60° gave narrow
     lines with the low-field peak being the highest. This observation and
     rotational correlation time anal. showed that the mol. motions of the spin-
     label moiety of the SL-6-DPPA were extremely restricted at 37°C but not above

Tc. These results suggest that below Tc the Cel-DAG mols. are packed tightly
and restricted in motion in the membrane. Incorporation of cholesterol into
the Cel-DAG liposomal membranes gave (1) the spectra of the SL-GC triplet, and
(2) the spectra of the SL-6-DPPA narrow resonance with the low-field peak
being the highest. Apparently, cholesterol disturbs the rigid-packed
structure of the Cel-DAG membrane and increases the mol. motions of the Cel-
DAG. The DSC anal. of Cel-DAG with and without cholesterol agreed well with
the results of the ESR technique. Thus it is assumed that peritoneal
macrophages recognize the rigid-packed carbohydrate residues which are
restricted in motion on the Cel-DAG membranes.

IT   57-88-5, Cholesterol, biological studies
     RL: BIOL (Biological study)
        (glyceroglycolipid membrane fluidity response to)
RN   57-88-5 CAPLUS
CN   Cholest-5-en-3-ol (3β)- (CA INDEX NAME)

Absolute stereochemistry.
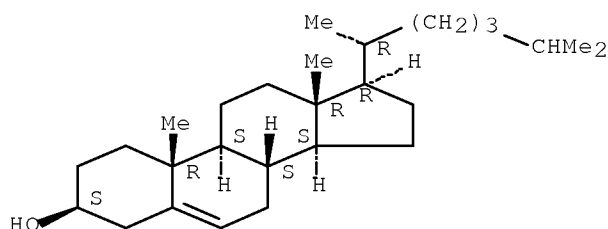
L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1987:475887 CAPLUS Full-text
DOCUMENT NUMBER: 107:75887
ORIGINAL REFERENCE NO.: 107:12489a,12492a
TITLE: Activation of mouse peritoneal macrophages by
                         synthetic glyceroglycolipid liposomes
AUTHOR(S):   Naito, Mikihiko; Kudo, Ichiro; Mukai-Sato, Yukiko;
                         Tsushima, Susumu; Nomura, Hiroaki; Nojima, Shoshichi;
                         Inoue, Keizo
CORPORATE SOURCE: Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan
SOURCE: Cancer Immunology Immunotherapy (1987), 24(2), 158-64
                         CODEN: CIIMDN; ISSN: 0340-7004
DOCUMENT TYPE: Journal
LANGUAGE: English
AB   Liposomes composed of chem. synthesized glyceroglycolipids, such as 1,2-
     dipalmityl-[β-cellobiosyl-(1'→3)]-glycerol (Cel-DAG), 1,2-dipalmityl-[β-
     lactosyl-(1'→3)]-glycerol, or 1,2-dipalmityl-[β-maltosyl-(1'→3)]-glycerol,
     enhanced protective immunity against transplantable tumor cells (sarcoma 180)
     in ICR mice. Peritoneal exudate cells prepared from mice treated in vivo with
     Cel-DAG showed cytostatic activity in vitro against the mouse leukemia cell
     line, EL-4. Adherent cells separated from this preparation showed similar
     activity. Peritoneal cells from polypeptone-injected mice acquired
     appreciable cytostatic activity when incubated in vitro in the presence of
     glyceroglycolipid liposomes. The adherent cell fraction alone showed rather
     weak cytostatic activity when pretreated with the glyceroglycolipids, and full
     activity was restored by supplementing with the nonadherent cell fraction.
     The ability of glycolipids to induce tumoricidal effects was affected by
     cholesterol content: with increasing cholesterol content, the activities
     decreased. Cholesterol-free glycolipid liposomes were taken more efficiently

by macrophages than cholesterol-containing liposomes. Cholesterol modifies
the surface property of glyceroglycolipid liposomes. Activation of
macrophages is responsible for enhancement of protective immunity against
tumor cells by injection of these glycolipids in vivo.
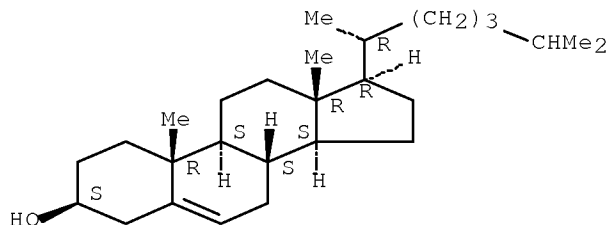IT   57-88-5, Cholesterol, biological studies
     RL: BIOL (Biological study)
         (glyceroglycolipid liposomes activation of macrophages modulation by)
RN   57-88-5 CAPLUS
CN   Cholest-5-en-3-ol (3β)-   (CA INDEX NAME)

Absolute stereochemistry.

=> d his

     (FILE 'HOME' ENTERED AT 15:44:48 ON 12 MAY 2009)

     FILE 'REGISTRY' ENTERED AT 15:45:02 ON 12 MAY 2009
L1   STRUCTURE UPLOADED
L2   0 S L1 SAM
L3   0 S L1 SSS FULL
L4   STRUCTURE UPLOADED
L5   0 S L4 SSS SAM
L6   0 S L4 SSS FULL

     FILE 'USPATFULL' ENTERED AT 15:50:27 ON 12 MAY 2009
L7   1 S US20060149045/PN

     FILE 'REGISTRY' ENTERED AT 15:51:09 ON 12 MAY 2009

     FILE 'USPATFULL' ENTERED AT 15:51:17 ON 12 MAY 2009
L8   TRA L7 1- RN :   386 TERMS

     FILE 'REGISTRY' ENTERED AT 15:51:18 ON 12 MAY 2009
L9   386 SEA L8

     FILE 'CAPLUS' ENTERED AT 15:51:37 ON 12 MAY 2009
L10   5 S L9 AND CELLOBIOSYL

=> logoff hold

     (FILE 'HOME' ENTERED AT 15:44:48 ON 12 MAY 2009)

     FILE 'REGISTRY' ENTERED AT 15:45:02 ON 12 MAY 2009
L1   STRUCTURE UPLOADED
               D L1
L2   0 SEA SSS SAM L1

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L3                0 SEA SSS FUL L1
L4                  STRUCTURE UPLOADED
                    D L4
L5                0 SEA SSS SAM L4
L6                0 SEA SSS FUL L4


     FILE 'USPATFULL' ENTERED AT 15:50:27 ON 12 MAY 2009
L7                1 SEA SPE=ON  ABB=ON  PLU=ON  US20060149045/PN


     FILE 'REGISTRY' ENTERED AT 15:51:09 ON 12 MAY 2009


     FILE 'USPATFULL' ENTERED AT 15:51:17 ON 12 MAY 2009
L8                 TRA PLU=ON  L7 1- RN :      386 TERMS


     FILE 'REGISTRY' ENTERED AT 15:51:18 ON 12 MAY 2009
L9              386 SEA SPE=ON  ABB=ON  PLU=ON  L8


     FILE 'CAPLUS' ENTERED AT 15:51:37 ON 12 MAY 2009
L10               5 SEA SPE=ON  ABB=ON  PLU=ON  L9 AND CELLOBIOSYL
                    D IBIB AB HITSTR 1-5
COST IN U.S. DOLLARS                         SINCE FILE      TOTAL
                                                ENTRY      SESSION
FULL ESTIMATED COST                             31.94       423.02


DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)   SINCE FILE      TOTAL
                                                ENTRY      SESSION
CA SUBSCRIBER PRICE                             -4.10        -4.10


 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 15:53:11 ON 12 MAY 2009
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6.3° (c 0.526, CHCl3). I maltoside, fine needles, m. 288°,
[α]D17 22.3° (c 0.735, CHCl3). In the same way, 500 mg.
β'-(Δ5-3β-hydroxynorcholen-23-yl)-Δα',β'-
butenolide (IV) and acetobromoglucose give 385 mg. IV
tetraacetylglucoside, fine needles, m. 208-8.5°, in addition to 300
mg. recovered IV; IV glucoside, prepared by saponification with 0.1 N Ba(OMe)2 in
MeOH at -10° for 2 days, crystals from EtOH, m. 270-5°. It
gives a pos. L. test. Δ20,22-3β,21-Dihydroxycholenic acid
lactone tetraacetylglucoside, crystal, from iso-AmOMe, m. 125-7°.
These compds. have only a slight solubility in H2O. All m.ps. corrected and in
evacuated tube.

=> d his

       (FILE 'HOME' ENTERED AT 00:48:14 ON 13 MAY 2009)

       FILE 'REGISTRY' ENTERED AT 00:48:33 ON 13 MAY 2009
L1   STRUCTURE UPLOADED
L2   2 S L1 SAM
L3   65 S L1 SSS FULL

       FILE 'CAPLUS' ENTERED AT 00:50:47 ON 13 MAY 2009
L4   6 S L3
L5   3839 S STEROID AND (GLUCO OR GLYCO OR CELLOBIOSYL OR CELLBIOSIDE OR
L6   3722 S L5 AND PY<2002
L7   190 S STEROID AND (CELLBIOSYL OR CELLOBIOSIDE OR GLYCOSYL OR GLYCOS
L8   0 S L7 AND 3-O-CELLOBIOSYL
L9   0 S L8 AND 3-O-CELLBIOSIDE
               E CANCER+ALL/CT
L10   1 S L7 AND C16
L11   10 S STEROID AND (CELLBIOSYL OR CELLOBIOSIDE) AND PY<2002

=> logoff hold

       (FILE 'HOME' ENTERED AT 00:48:14 ON 13 MAY 2009)

       FILE 'REGISTRY' ENTERED AT 00:48:33 ON 13 MAY 2009
L1   STRUCTURE UPLOADED
                 D L1
L2   2 SEA SSS SAM L1
L3   65 SEA SSS FUL L1

       FILE 'CAPLUS' ENTERED AT 00:50:47 ON 13 MAY 2009
L4   6 SEA SPE=ON ABB=ON PLU=ON L3
                 D IBIB AB HITSTR 1-6
L5   3839 SEA SPE=ON ABB=ON PLU=ON STEROID AND (GLUCO OR GLYCO OR
                 CELLOBIOSYL OR CELLBIOSIDE OR GLYCOSYL OR GLYCOSYLATED)
L6   3722 SEA SPE=ON ABB=ON PLU=ON L5 AND PY<2002
L7   190 SEA SPE=ON ABB=ON PLU=ON STEROID AND (CELLBIOSYL OR
                 CELLOBIOSIDE OR GLYCOSYL OR GLYCOSYLATED) AND PY<2002
L8   0 SEA SPE=ON ABB=ON PLU=ON L7 AND 3-O-CELLOBIOSYL
L9   0 SEA SPE=ON ABB=ON PLU=ON L8 AND 3-O-CELLBIOSIDE
                 SET LINE 250
                 SET DETAIL OFF
                 E CANCER+ALL/CT
                 SET LINE LOGIN
                 SET DETAIL LOGIN
L10   1 SEA SPE=ON ABB=ON PLU=ON L7 AND C16
                 D IBIB
L11   10 SEA SPE=ON ABB=ON PLU=ON STEROID AND (CELLBIOSYL OR
                 CELLOBIOSIDE) AND PY<2002
                 D IBIB AB 1-10
COST IN U.S. DOLLARS   SINCE FILE   TOTAL
                                                  ENTRY   SESSION
FULL ESTIMATED COST   131.09   318.63